

In The Abstract

Please replace the Abstract with the following Abstract:

~~The present invention relates to a head for recording/reading optical data and method of manufacturing the same. The present invention completely buries an aperture with a material a third non-linear coefficient of which is great in order to induce self focusing. Thus, the present invention can reduce the amount of beam by about one half wavelength and focus the beam in a parabolic shape having almost no optical loss. Therefore, the present invention can improve the transmissivity of the probe by several hundreds times compared to a conventional optical fiber probe, by effectively exciting a near field scanning optical microscopy for the aperture of an end portion of the probe.~~

A method of manufacturing a head for recording and reading optical data. The method includes: providing a silicon substrate on which a silicon oxide film and a silicon deposition layer are stacked; etching the bottom of the silicon substrate by a given depth to form an opening; forming an aperture having a given slant angle in the silicon deposition layer located on the opening; etching the portion of the silicon oxide film, exposed through the opening; forming a dielectric layer on the silicon deposition layer including the aperture; removing an exposed portion of the bottom of the silicon deposition layer by a given thickness to expose a portion of the dielectric layer; forming a probe on the exposed portion of the dielectric layer and the silicon deposition layer exposed through the opening; and burying the aperture with a non-linear material.